Incoming C0150035

Sheila Morrison - Lease Addition

From: Mark Reynolds <mreynolds@etv.net>
To: Steve Christensen <stevechristensen@utah.gov>
Date: 10/4/2006 12:03 PM
Subject: Lease Addition
CC: Joe Helfrich <joehelfrich@utah.gov>, Wayne Hedberg <waynehedberg@utah.gov>

Steve,
Attached is a draft response to deficiencies for Task No. 2597.

In regards to the PHC and Karl's comments, I think the following statement on page 127 was the one creating confusion for him.
"The hydrologic evaluation presented in Section 1-8 of this report includes the Mohrland area; however, C. W. Mining is not permitting the Mohrland area at this time."

I think he read this, but missed the statement in the preceding paragraph that says *"This PHC determination is based on the data and information in Sections 1-8 of this document"* Without reading this sentence, the sentence about Mohrland not being permitted could lead a person to think that the area was not included in the PHC.

I think this response addresses everything you talked about in the last email you sent me.

If you have any questions please call me.

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Draft Response to Deficiencies from Steve Christensen for Task No. 2597

R645-301-724.100, -724.200: State Appropriated Water Rights

- The Permittee needs to modify Plate 7-12 to accurately depict the location and ID# for all state appropriated water rights located in the lease expansion area. (See State Appropriated Water Rights section for detailed information). [SKC]

- The Permittee should provide additional state appropriated water right information. Per a conversation with Marc Stillson, Price, UT Water Rights Division Office and Mark Reynolds, C.O.P., it was agreed that: priority date, place of use, point of diversion and nature of use associated with each state appropriated water right located on the proposed lease expansion would be included in the MRP. [SKC]

R645-301-724.100 and -724.200, Plate 7-12 was updated to accurately depict all state appropriated water rights. Table 7-6 (page 7-32 thourhg 7-33B) was updated to show the priority date, place of use, point of diversion, and nature of use for all water rights.

R645-301-724, -724.100, –724.200, -731.210 and –731.220: (Baseline Information and Ground Water and Surface Water Monitoring –Operational Plan)

- The Permittee should provide a written description in the pertinent text sections (i.e. Ground and Surface Water sections in the Baseline Environmental Description; 724.100 and 724.200, as well as in the Ground and Surface Water Monitoring sections in the Operational Plan; 731.210 and 731.220) clearly outlining what year specific ground and surface water sites will begin to be monitored as mining activity approaches their location (i.e. 3 years prior to undermining). In addition, the Permittee should provide a written explanation as to why the sites are being slated for future monitoring as opposed to immediate operational monitoring in each of the aforementioned sections. (See Ground and Surface Water Monitoring sections for further comments on proposed monitoring plan.) [SKC]

R645-301-724, 724-100, -724-200, -731.210, and 731.220. Monitoring will begin on all sites once the application is approved. Table 7-14 (page 7-53) and Plate 7-4 have been updated to reflect this, and to reflect the changes in the water monitoring matrix as discussed. Page 7M-13 was also updated to reflect the proposed monitoring schedule.

R645-301-728: Probable Hydrologic Consequences

- The application does not meet the hydrology Probable Hydrologic Consequences Determination requirements as provided in R645-301-728. Page 7-60 makes a brief reference to water mitigation efforts in the event that mining activity impacts either the Left or Right Fork of Fish Creek. The Permittee should remove mitigation language from this section and discuss the proposed plan in the Replacement of State Appropriated Water Supply in the Operational Plan section. [SKC]

R645-301-728. No text is being added to page 7-60 anymore, instead the mitigation is discussed under the water replacement section (pages 7-61A thru 7-61D), and the detailed monitoring of protection areas is discussed in Appendix 5-C pages 9 and 10.

Changes were made to the PHC section in accordance with the suggestions from Jim Smith of the Division of Oil Gas and Mining.

R645-301-722, -731: Maps, Plans and Cross Sections

- The Permittee needs to modify Plate 7-12 to accurately depict the location and ID# for all state appropriated water rights located in the lease expansion area. In addition, the title of Plate 7-12 should be changed to Water Rights. (See State Appropriated Water Rights section for detailed information). [SKC]

- The Permittee should update Plate 7-4 to reflect water monitoring and mine plan changes as brought about by recent site visits and meetings with the Division, water users and the USDA Forest Service. (See the Maps, Plans and Cross Sections of Mining Operations in the Operational Plan section, R645-301-731, of this memo for specific comments). [SKC]

- The Permittee needs to clarify which Plate 7-4 is the correct as the digital version depicts an area of concern on the Right Fork of Fish Creek, yet the hard copy version submitted to the Division does not depict this area of concern. [SKC]

R645-301-722, -731:

Plate 7-12 was updated to accurately depict the location of all water rights.

Plate 7-4 was updated to reflect mine plan changes and changes in the water monitoring plan.

The hard copy and digital copy now match each other.

R645-301-731.210, -731.220: Surface and Groundwater Monitoring

- Page 7-48 of the MRP states, "A recommended water monitoring program is included in Appendix 7-J, Section 10.0". The Permittee should make clear which monitoring program is to be followed i.e. the program outlined in Appendix 7-J or the program outlined in Chapter of 7 of the MRP, as they are different. [SKC]

- The Permittee should provide a written commitment to begin sampling sites FC-2, FC-3, FC-4, SBC-18, and SBC-20 beginning the 1st quarter of 2007. A start date of 2007 is listed on Table 7-14 for the aforementioned ground and surface water sites, but there is no specification in the text of the MRP that states when in 2007. [SKC]

- Plate 5-1B, Hiawatha Seam Workings, does not depict a start date for (presumably) long wall panels 5 and 6. The Permittee needs to clarify in the MRP when these areas are to be mined in order to adequately identify the 3-year baseline collection/water monitoring commencement date for the hydrologic resources identified in this area: SCC-5, WR-2, WR-3 and WR-4. The sites

have a water monitoring start date of 2013 according to Table 7-14, yet Plate 5-1B does not support this. [SKC]

- The Permittee needs to provide a more detailed monitoring program to access potential impacts to the Left and Right Forks of Fish Creek, as they have been identified as perennial in Appendix 7-J (See the Operational Plan Surface and Groundwater Monitoring section for more comments). [SKC]

R645-301-731.210, 731.220:

Page 7-48 was updated to clarify which water monitoring program is being followed.

Sampling will begin at all water sites when the amendment is approved.

Sampling will begin at all water sites when the amendment is approved.

R645-301-731.210: Groundwater Monitoring

- The Permittee will need to amend Table 7-14, Plate 7-4 and related text portions of chapter 7 Groundwater Monitoring, to reflect recent changes to the mine plan as well as the alteration of the water-monitoring program. (See Groundwater Monitoring section, R645-301-731.210, for details and specific deficiencies). [SKC]

R645-301-731.210, Table 7-14 and Plate 7-4 were updated to reflect recent changes in the mine plan design and the water monitoring program.

R645-301-731.220: Surface Water Monitoring

- Surface water site FC-4 is depicted on Plate 7-4, however it is not listed on Table 7-14. The Permittee should update the table and the text on page 7-57 to reflect the addition of this surface water site on the upper reach of the Left Fork of Fish Creek. [SKC]

- Cedar Creek surface water-monitoring sites CK-1 and CK-2 have a monitoring start date of 2010 as listed on Table 7-14. However, according to Plate 5-1B, a rock tunnel is to be constructed in this area in 2010. In order for 3 years of baseline to be collected prior to mining activity, the two surface water sites would need to be monitored starting in 2007. In addition, the sites were depicted on previously submitted submittals as active monitoring sites. The Permittee needs to address this discrepancy in the text and on Plate 7-4 and Table 7-14. [SKC]

R645-301-731.220

Table 7-14 and page 7-57 were updated to show FC-4 and all surface sites.

Sites CK-1 and CK-2 will be monitored as soon as the application is approved.

R645-301-731.50: State-Appropriated Water Replacement

- The Permittee must provide a description of the measures to be taken to replace adversely affected state-appropriated water supplies or to mitigate or remedy any subsidence-related material damage to the land and protected structures. [SKC]

- The Permittee should commit to replacing any water resource that has been materially damaged as a result of mining activity, as well as delete the language connecting water replacement efforts directly to an impacted state appropriated water right on pages 5C-9 and 7-48. [SKC]

R645-301-731.50,

A description of measures to be taken to replace adversely affected water rights is included on pages 7-61A thru 7-61D

A commitment was made to replace any water resources that are part of a water right or are identified as protected.

R645-301-729: Cumulative Hydrologic Impact Assessment (CHIA)

The Permittee needs to address the hydrologic deficiencies listed in this technical memo (Task ID#2526) before the Division can update the Gentry Mountain Cumulative Hydrologic Impact Area with information regarding the addition of the proposed lease expansion. [SKC]

Table 7-6 Area Water Rights

Water Right	Owner	Priority Date	Place of Use	Point of Diversion	Nature Of Use
93-116	U.S.F.S	0/0/1875	From a point in NE4SE4 Sec 08, T15S, R7E, SLBM, to a point in SE4SE4 Sec 09, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-129	Nevada Electric	0/0/1875	From a point in NW4NW4 Sec 15, T16S, R7E, SLBM, to a point in NW4NW4 Sec 15, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-130	U.S.F.S	0/0/1875	from a point in SW4NW4 Sec 15, T16S, R7E, SLBM, to a point in SE4NW4 Sec 22, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-131	C.O.P Coal	0/0/1875	from a point in NW4SE4 Sec 22, T16S, R7E, SLBM, to a point in SW4SE4 Sec 22, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-138	C.O.P Coal	0/0/1875	from a point in NE4NE4 Sec 15, T16S, R7E, SLBM, to a point in NE4SE4 Sec 22, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-139	U.S.F.S	0/0/1875	from a point in NW4NW4 Sec 11, T16S, R7E, SLBM, to a point in SE4SE4 Sec 10, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-140	Utah Trust Land	0/0/1875	from a point in NE4SW4 Sec 02, T16S, R7E, SLBM, to a point in SW4SW4 Sec 02, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-141	C.O.P Coal	0/0/1875	from a point in NW4NW4 Sec 14, T16S, R7E, SLBM, to a point in SE4NE4 Sec 15, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-142	Utah Trust Land	0/0/1875	from a point in NW4NW4 Sec 01, T16S, R7E, SLBM, to a point in NE4NW4 Sec 14, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-143	Nevada Electric	0/0/1875	Spring located in NW4SW4 Sec 26, T16S, R7E, SLBM	Spring	Stockwater
93-144	U.S.F.S	0/0/1875	from a point in SE4SE4 Sec 22, T16S, R7E, SLBM, to a point in SE4SE4 Sec 22, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-146	Nevada Electric	0/0/1875	from a point in SE4NE4 Sec 27, T16S, R7E, SLBM, to a point in SE4NE4 Sec 27, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-147	BLM	0/0/1860	from a point in NW4NW4 Sec 35, T16S, R7E, SLBM, to a point in NE4NW4 Sec 35, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-148	BLM	0/0/1902	from a point in SE4SW4 Sec 26, T16S, R7E, SLBM, to a point in SE4SW4 Sec 26, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-149	Nevada Electric	0/0/1875	from a point in SW4SW4 Sec 26, T16S, R7E, SLBM, to a point in SW4SW4 Sec 26, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-150	Nevada Electric	0/0/1875	from a point in NE4NW4 Sec 24, T16S, R7E, SLBM, to a point in NE4SE4 Sec 26, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-151	U.S.F.S	0/0/1875	from a point in NE4NW4 Sec 13, T16S, R7E, SLBM, to a point in SW4SW4 Sec 13, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-155	Utah Trust Lands	0/0/1902	from a point in NE4NW4 Sec 29, T16S, R8E, SLBM, to a point in SW4SW4 Sec 29, T16S, R8E, SLBM.	Point 2 Point	Stockwater
93-156	A.U. Mines INC.	0/0/1902	from a point in NW4NE4 Sec 29, T16S, R8E, SLBM, to a point in NW4NE4 Sec 29, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-157	A.U. Mines INC.	0/0/1902	from a point in NW4SE4 Sec 20, T16S, R8E, SLBM, to a point in SW4SE4 Sec 20, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-158	C.O.P Coal	0/0/1902	from a point in NE4NW4 Sec 20, T16S, R8E, SLBM, to a point in SE4NW4 Sec 20, T16S, R8E, SLBM.	Point 2 Point	Stockwater
93-160	C.O.P Coal	0/0/1902	from a point in SW4NW4 Sec 07, T16S, R8E, SLBM, to a point in SE4SW4 Sec 17, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-161	C.O.P Coal	0/0/1902	spring located in NW4SE4 Sec 07, T16S, R8E, SLBM	Spring	Stockwater
93-163	C.O.P Coal	0/0/1902	from a point in Lot 4 Sec 06, T16S, R8E, SLBM, to a point in NE4NE4 Sec 15, T16S, R8E, SLBM.	Point 2 Point	Stockwater
93-165	Trust Lands	0/0/1902	from a point in SW4SW4 Sec 29, T16S, R8E, SLBM, to a point in SW4SW4 Sec 29, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-166	U.S.F.S	0/0/1875	from a point in NE4NE4 Sec 19, T16S, R8E, SLBM, to a point in SE4NE4 Sec 30, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-167	C.O.P Coal	0/0/1902	from a point in SW4NW4 Sec 18, T16S, R8E, SLBM, to a point in SW4SE4 Sec 18, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-188	U.S.F.S	0/0/1875	from a point in SE4NW4 Sec 05, T16S, R7E, SLBM, to a point in SE4NW4 Sec 04, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-190	U.S.F.S	0/0/1875	from a point at 0 ft., to a point in NE4SE4 Sec 06, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-192	U.S.F.S	0/0/1875	from a point in NW4SE4 Sec 09, T16S, R7E, SLBM, to a point in NE4SE4 Sec 09, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-193	U.S.F.S	0/0/1875	from a point in SW4SE4 Sec 08, T16S, R7E, SLBM, to a point in NW4SE4 Sec 09, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-195	U.S.F.S	0/0/1875	from a point in NE4NE4 Sec 20, T16S, R7E, SLBM, to a point in NE4NW4 Sec 22, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-196	Hiatt, Marena Madden, et Al	0/0/1902	from a point in SW4SE4 Sec 17, T16S, R7E, SLBM, to a point in SW4SE4 Sec 17, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-199	UP&L	0/0/1902	from a point in NW4NW4 Sec 27, T16S, R7E, SLBM,to a point in SE4SW4 Sec 22, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-202	BLM	0/0/1902	from a point in SE4NE4 Sec 35, T16S, R7E, SLBM, to a point in SE4NE4 Sec 35, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-203	Zions Bank& Frank A	0/0/1902	from a point in NW4NW4 Sec 02, T17S, R7E, SLBM, to a point in NE4SE4 Sec 35, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-210	Zionsl Bank & Frank A	0/0/1902	from a point in NW4SW4 Sec 35, T16S, R7E, SLBM, to a point in SE4SW4 Sec 35, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-214	Utah Power And Light	0/0/1902	from a point in SW4NW4 Sec 36, T16S, R7E, SLBM, to a point in SE4SE4 Sec 06, T17S, R8E, SLBM.	Point 2 Point	Stockwater

93-217	Utah Power And Light	0/0/1902	from a point in NW4SW4 Sec 01, T17S, R7E, SLBM, to a point in SW4SE4 Sec 36, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-219	HCIC	0/0/1875	(1) N 40 ft W 1520 ft from SE cor, Sec 34, T 15S, R 7E, SLBM, (2) N 1550 ft W 50 ft from SE cor, Sec 34, T 15S, R 7E, SLBM	Surface	Irrigation/Power/Industrial/Domestic/Minicipal/Stock Water
93-220	HCIC	0/0/1875	(1) S 1535 ft E 785 ft from NW cor, Sec 36, T 16S, R 7E, SLBM	Surface	Irrigation/Power/Industrial/Domestic/Minicipal/Stock Water
93-251	ANR	0/0/1900	(1) S 215 ft W 120 ft from NE cor, Sec 12, T 20S, R 6E, SLBM	Surface	Irrigation/ Domestic
93-253	HCIC	0/0/1875	(1) N 2045 ft E 185 ft from S4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Stock Water/ Irrigation/ Domestic/ Municipal
93-254	HCIC	0/0/1875	(1) N 1750 ft W 95 ft from S4 cor, Sec 09, T 16S, R 7E, SLBM	Surface	Stock Water/ Irrigation/ Domestic/ Municipal
93-259	HCIC	0/0/1875	spring located in NW4SW4 Sec 17, T16S, R7E, SLBM	Spring	Stockwater
93-260	HCIC	0/0/1902	spring located in SW4SE4 Sec 17, T16S, R7E, SLBM	Spring	Stockwater
93-303	HCIC	0/0/1875	(1) S 2040 ft W 530 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Stock Water/ Irrigation/ Domestic/ Minicpal
93-304	HCIC	0/0/1875	(1) N 1060 ft E 685 ft from W4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Domestic
93-309	HCIC	0/0/1875	(1) S 1770 ft W 980 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Domestic/ Municipal/Stock Water
93-310	HCIC	0/0/1875	(1) N 2030 ft E 60 ft from SW cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/Domestic/Municipal/ Stock Water
93-316	ANR	0/0/1875	spring located in SW4NE4 Sec 10, T18S, R5E, SLBM	Spring	Stockwater
93-317	U.S.F.S	0/0/1875	spring located in SE4NW4 Sec 10, T18S, R5E, SLBM	Spring	Stockwater
93-390	Nevada Electric	0/0/1875	from a point in SW4SE4 Sec 22, T16S, R7E, SLBM, to a point in SW4SE4 Sec 22, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-508	ANR	0/0/1902	spring located in Lot 2 Sec 06, T16S, R8E, SLBM	Spring	Stockwater
93-509	C.O.P Coal	0/0/1875	spring located in SE4NW4 Sec 06, T16S, R8E, SLBM	Spring	Stockwater
93-510	C.O.P Coal	0/0/1902	spring from a point at 0 ft., to a point in NE4NE4 Sec 15, T16S, R8E, SLBM	Spring	Stockwater
93-511	IPA	0/0/1902	spring located in Lot 7 Sec 06, T16S, R8E, SLBM	Spring	Stockwater
93-512	ANR	0/0/1902	from a point in SE4NE4 Sec 05, T16S, R8E, SLBM, to a point in SE4NE4 Sec 09, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-513	Utah Trust Lands	0/0/1902	from a point in SW4NW4 Sec 10, T16S, R8E, SLBM, to a point in NW4SW4 Sec 10, T16S, R8E, SLBM.	Point 2 Point	Stockwater
93-514	C.O.P Coal	0/0/1902	from a point in SW4SW4 Sec 10, T16S, R8E, SLBM, to a point in SW4SW4 Sec 10, T16S, R8E, SLBM	Point 2 Point	Stockwater
93-522	IPA	0/0/1902	(1) N 950 ft W 1430 ft from SE cor, Sec 06, T 16S, R 8E, SLBM	Surface	Mining/ Stock Water
93-565	Utah Trust Land	0/0/1902	from a point in NE4NW4 Sec 28, T16S, R8E, SLBM, to a point in NE4SE4 Sec 10, T17S, R8E, SLBM.	Point 2 Point	Stockwater
93-928	HCIC	0/0/1902	(1) N 1240 ft E 270 ft from SW cor, Sec 21, T 14S, R 6E, SLBM	Surface	Irrigation/ Power/ Industrial/ Fish Culture/ Stock Water/ Domestic
93-955	Utah Water Recources	8/8/1922	(1) N 1240 ft E 270 ft from SW cor, Sec 21, T 14S, R 6E, SLBM	Surface	Irrigation/ Stock Water
93-964	U.S. Fuel	0/0/1929	(1) S 1450 ft E 1400 ft from NW cor, Sec 05, T 16S, R 8E, SLBM	Surface	Industrial
93-964	U.S. Fuel	8/17/1929	(1) S 1450 ft E 1400 ft from NW cor, Sec 05, T 16S, R 8E, SLBM	Surface	Industrial
93-970	ANR	4/10/1930	(1) N 1831 ft W 1012 ft from SE cor, Sec 08, T 16S, R 8E, SLBM	Surface	Industrial
93-1063	Utah Water Recources	3/30/1961	(1) N 1641 ft E 938 ft from SW cor, Sec 21, T 14S, R 6E, SLBM, (2) S 2220 ft W 2200 ft from NE cor, Sec 33, T 14S, R 6E, SLBM,(3) S 3272 ft W 282 ft from NE cor, Sec 33, T 14S, R 6E, SLBM, (4) N 165 ft W 750 ft from S4 cor, Sec 05, T 17S, R 8E, SLBM	Surface	Irrigation/ StockWater/ Domestic
93-1067	C.O.P Coal	1/20/1964	(1) N 79 ft E 75 ft from SW cor, Sec 24, T 16S, R 7E, SLBM	Surface	Irrigation/ Domestic/ Mining
93-1089	ANR	7/0/1910	(1) N 1500 ft W 85 ft from SE cor, Sec 08, T 16S, R 8E, SLBM	Under ground	Irrigation
93-1115	Utah Power And Light	12/10/1968	(1) S 1535 ft E 785 ft from NW cor, Sec 36, T 16S, R 7E, SLBM , (2) N 2350 ft W 500 ft from SE cor, Sec 10, T 17S, R 7E, SLBM	Surface	Irrigation/ Power/ Industrial
93-1129	Utah Trust Lands	0/0/1875	spring located at N3000 ft. E350 ft. from SW corner, Sec 10, T16S, R8E, SLBM	Spring	Stockwater
93-1139	HCIC	0/0/1890	(1) S 940 ft W 550 ft from N4 cor, Sec 28, T 14S, R 6E, SLBM	Surface	Irrigation/Power/Fish Culture/Industrial/Industrial /StockWater/Municipal/ Domestic
93-1182	Peabody Coal Co.	0/0/1902	from a point in NW4SE4 Sec 26, T16S, R7E, SLBM, to a point in SW4SE4 Sec 26, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-1183	Pacificorp UP&L	0/0/1902	from a point in NE4SW4 Sec 22, T16S, R7E, SLBM, to a point in NE4SW4 Sec 22, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-1187	U.S.F.S	0/0/1875	from a point in NE4SW4 Sec 20, T16S, R8E, SLBM, to a point in NE4SW4 Sec 20, T16S, R8E, SLBM.	Point 2 Point	Stockwater

93-1408	U.S.F.S	0/0/1875	spring located in NW4NE4 Sec 06, T16S, R7E, SLBM	Spring	Stockwater
93-1411	U.S.F.S	0/0/1875	spring located in NE4SW4 Sec 09, T16S, R7E, SLBM	Spring	Stockwater
93-1425	U.S.F.S	0/0/1875	spring located in SE4SW4 Sec 21, T16S, R8E, SLBM	Spring	Stockwater
93-1426	U.S.F.S	0/0/1875	spring located in SW4NW4 Sec 21, T16S, R8E, SLBM	Spring	Stockwater
93-1427	U.S.F.S	0/0/1875	spring located in NE4NE4 Sec 20, T16S, R8E, SLBM	Spring	Stockwater
93-1428	U.S.F.S	0/0/1875	spring located in NE4NE4 Sec 19, T16S, R8E, SLBM	Spring	Stockwater
93-1429	U.S.F.S	0/0/1875	spring located in NE4SE4 Sec 13, T16S, R7E, SLBM	Spring	Stockwater
93-1430	U.S.F.S	0/0/1875	spring located in SE4SE4 Sec 12, T16S, R7E, SLBM	Spring	Stockwater
93-1431	U.S.F.S	0/0/1875	spring located in NE4SE4 Sec 12, T16S, R7E, SLBM	Spring	Stockwater
93-1432	U.S.F.S	0/0/1875	spring located in SE4NE4 Sec 12, T16S, R7E, SLBM	Spring	Stockwater
93-1433	U.S.F.S	0/0/1875	spring located in NW4SE4 Sec 12, T16S, R7E, SLBM	Spring	Stockwater
93-1434	U.S.F.S	0/0/1875	spring located in NW4SW4 Sec 11, T16S, R7E, SLBM	Spring	Stockwater
93-1435	U.S.F.S	0/0/1875	spring located in NE4SE4 Sec 10, T16S, R7E, SLBM	Spring	Stockwater
93-1436	U.S.F.S	0/0/1875	spring located in NW4NW4 Sec 11, T16S, R7E, SLBM	Spring	Stockwater
93-1437	U.S.F.S	0/0/1875	spring located in NE4NW4 Sec 01, T16S, R7E, SLBM	Spring	Stockwater
93-1438	U.S.F.S	0/0/1875	spring located in NE4NW4 Sec 01, T16S, R7E, SLBM	Spring	Stockwater
93-2193	HCIC	0/0/1879	(1) N 1750 ft W 95 ft from S4 cor, Sec 09, T 16S, R 7E, SLBM	Surface	Irrigation/ Domestic/ Municipal/ StockWater
93-2194	HCIC	0/0/1884	(1) N 1750 ft W 95 ft from S4 cor, Sec 09, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater
93-2195	HCIC	0/0/1888	(1) N 1750 ft W 95 ft from S4 cor, Sec 09, T 16S, R 7E, SLBM	Surface	Irrigation/ StockWater
93-2196	HCIC	0/0/1879	(1) N 1060 ft E 685 ft from W4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2197	HCIC	0/0/1884	(1) N 1060 ft E 685 ft from W4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2198	HCIC	0/0/1888	(1) N 1060 ft E 685 ft from W4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2199	HCIC	0/0/1879	(1) N 2045 ft E 185 ft from S4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2200	HCIC	0/0/1884	(1) N 2045 ft E 185 ft from S4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2201	HCIC	0/0/1888	(1) N 2045 ft E 185 ft from S4 cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2202	HCIC	0/0/1879	(1) S 2040 ft W 530 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2203	HCIC	0/0/1884	(1) S 2040 ft W 530 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2204	HCIC	0/0/1888	(1) S 2040 ft W 530 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Stockwater
93-2205	HCIC	0/0/1879	(1) S 1770 ft W 980 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2206	HCIC	0/0/1884	(1) S 1770 ft W 980 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Stockwater
93-2207	HCIC	0/0/1888	(1) S 1770 ft W 980 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2208	HCIC	0/0/1879	(1) N 2030 ft E 60 ft from SW cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2209	HCIC	0/0/1884	(1) N 2030 ft E 60 ft from SW cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2210	HCIC	0/0/1888	(1) N 2030 ft E 60 ft from SW cor, Sec 26, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2220	HCIC	0/0/1879	(1) N 40 ft W 1520 ft from SE cor, Sec 34, T 15S, R 7E, SLBM (2) N 1550 ft W 50 ft from SE cor, Sec 34, T 15S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2221	HCIC	0/0/1884	(1) N 40 ft W 1520 ft from SE cor, Sec 34, T 15S, R 7E, SLBM (2) N 1550 ft W 50 ft from SE cor, Sec 34, T 15S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2222	HCIC	0/0/1888	(1) N 40 ft W 1520 ft from SE cor, Sec 34, T 15S, R 7E, SLBM (2) N 1550 ft W 50 ft from SE cor, Sec 34, T 15S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic
93-2223	HCIC	0/0/1879	(1) S 1535 ft E 785 ft from NW cor, Sec 36, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic/ Power/ Industrial
93-2224	HCIC	0/0/1884	(1) S 1535 ft E 785 ft from NW cor, Sec 36, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic/ Power/ Industrial
93-2225	HCIC	0/0/1888	(1) S 1535 ft E 785 ft from NW cor, Sec 36, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic/ Power/ Industrial

93-3033	HCIC	0/0/1875	from a point in NW4SW4 Sec 26, T16S, R7E, SLBM, to a point in NW4SW4 Sec 26, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-3033	North West Carbon Corp	0/0/1875	from a point in NW4SW4 Sec 26, T16S, R7E, SLBM, to a point in NW4SW4 Sec 26, T16S, R7E, SLBM.	Point 2 Point	Stockwater
93-3047	Utah Trust Lands	0/0/1860	spring located in SW4NE4 Sec 28, T16S, R8E, SLBM.	Spring	Stockwater
93-3171	North West Carbon Corp	0/0/1875	from a point in NW4SW4 Sec 26, T16S, R7E, SLBM, to a point in SW4SW4 Sec 26, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-3195	HCIC	2/28/1980	(1) S 940 ft W 550 ft from N4 cor, Sec 28, T 14S, R 6E, SLBM	Surface	Irrigation/ Industrial/ Power/ Fish Culture/ Stock Water/ Domestic/ Municipal
93-3207	BLM	0/0/1860	from a point in NE4NE4 Sec 27, T16S, R7E, SLBM, to a point in NE4NE4 Sec 27, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-3208	BLM	0/0/1860	from a point in SW4NW4 Sec 26, T16S, R7E, SLBM,to a point in SW4NW4 Sec 26, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-3209	BLM	0/0/1860	from a point in NE4SW4 Sec 26, T16S, R7E, SLBM, to a point in NE4SW4 Sec 26, T16S, R7E, SLBM	Point 2 Point	Stockwater
93-3524	ANR	4/10/1930	(1) N 1831 ft W 1012 ft from SW cor, Sec 09, T 16S, R 8E, SLBM	Surface	Industrial/ Municipal
93-3657	J. O Kingston	0/0/1875	(1) S 1725 ft W 1280 ft from NE cor, Sec 22, T 16S, R 7E, SLBM, (2) N 79 ft E 75 ft from SW cor, Sec 24, T 16S, R 7E, SLBM	Surface	Irrigation/ Stockwater
93-3725	HCIC	0/0/1875	(1) N 1060 ft E 685 ft from W4 cor, Sec 26, T 16S, R 7E, SLBM, (2) N 2030 ft E 60 ft from SW cor, Sec 26, T 16S, R 7E, SLBM, (3) S 1770 ft W 980 ft from NE cor, Sec 27, T 16S, R 7E, SLBM, (4) S 2040 ft W 530 ft from NE cor, Sec 27, T 16S, R 7E, SLBM	Surface	Irrigation/ Municipal/ StockWater/ Domestic/ Power/ Industrial
93-3739	ANR	7/00/1910	(1) N 1500 ft W 85 ft from SE cor, Sec 08, T 16S, R 8E, SLBM	Under ground	Irrigation
93-3745	IPA	4/10/1930	(1) N 1831 ft W 1012 ft from SE cor, Sec 08, T 16S, R 8E, SLBM	Surface	Industrial/ Municipal
93-3746	IPA	4/10/1930	(1) N 1831 ft W 1012 ft from SW cor, Sec 09, T 16S, R 8E, SLBM	Surface	Industrial/ Municipal

Note: This table includes water rights on file with the Utah Division of Water Rights in or near the permit area.

No alternate water source is needed since we do not expect to impact any current water sources as explained in R645-301-724.100 and R645-301-724.200.

R645-301-728 Probable Hydrologic Consequence Determination

~~See Appendix 7-J~~. In 2001 C. W. Mining hired Mayo and Associates to do a detailed hydrologic study and a PHC of the current permit area and all areas of anticipated future mining. This study is included as Appendix 7J. The study area included the 2001 WHR permit expansion and the 2006 Federal Lease/Mohrland expansion areas. The study clearly identifies the areas during the introduction on page 1, and on the project area map on page 2. Additionally page 127 of the study states "This PHC determination is based on data and information presented in Sections 1-8 of this document." and "The hydrological evaluation presented in Section 1-8 of this report also includes the Mohrland area;" he continues by saying "however, C. W. Mining is not permitting the Mohrland area at this time." The last statement was correct at the time of the report, but is no longer correct since an application to add the Mohrland area was submitted to DOGM in 2005. This statement should be ignored when reading the document.

Additionally, at the time the report was done, no escarpment failure was planed in the left fork of Fish Creek, and the right fork of Fish Creek was not considered perennial where it flowed through the affected area. Because of this consequences related to these issues were not discussed in Appendix 7J.

728.100 PHC Determination

This is included in section 9.0 of Appendix 7J. For the left fork of Fish Creek there is one area where escarpment failure may reach the stream. This would cause a temporary increase in the sediment of the area. The impact would be short term and only affect the immediate area. Escarpment failure is discussed in detail in Appendix 5-C.

During field investigations conducted in 2006 it was determined that 4,000 feet of perennial stream in the right fork of Fish Creek exist in the affected area. Since fracturing of rocks is not

expected to extend more then 250 feet above the coal seam and the minimum overburden thickness is 900 feet, no impact is expected. Additionally if any fracturing did occur it would immediately be sealed by the surface soil. Protection and monitoring of this area is discussed in Appendix 5-C.

728.200 Baseline Information

This is discussed in Appendix 7J sections 3 through 7 and Appendix 7M and 7N.

728.310 Adverse Impacts to the Hydrologic Balance

This is discussed in section 9.1 of Appendix 7J

728.320 Acid/Toxic Forming Material

This is discussed in section 9.2 of Appendix 7J

728.330 Impacts of Proposed on:

728.331	Sediment Yield;	This is discussed in section 9.3 of Appendix 7J
728.332	Water Quality;	This is discussed in section 9.4 of Appendix 7J
728.333	Stream Flow Alteration;	This is discussed in section 9.5 of Appendix 7J
728.334	Water Availiabity;	This is discussed in section 9.6 of Appendix 7J

728.340-350 Affects on Water Resources and Water Rights

This is discussed in section 9.7 of Appendix 7J

R645-301-729 Cumulative Hydrologic Impact Assessment

See Appendix 7-L.

R645-301-730 Operation Plan

R645-301-731 General Requirements

731.100 Hydrologic Balance Protection

As discussed in Appendix 7-J, section 9-1, hydrocarbons in the form of oil and fuel are stored at the mine site. A spill prevention control and counter measures plan is maintained onsite-outlining controls to prevent and mitigate any hydrocarbon spills. Within six months of the implementation of the Wild Horse Ridge facilities construction, this plan will be updated to reflect the controls for the new facilities. If any state appropriated water rights are impacted in the future C. W. Mining will meet with the water right holder and the Division and develop a site specific water replacement plan.

Water Monitoring

Groundwater Monitoring Plan

Monitoring activities are designed to determine water levels, discharge and water quality fluctuations in relevant aquifers or groundwater occurrences in the mine area. Data is collected from mine sumps, from monitoring wells within the mine, observation wells on the surface, and springs. The objectives are to identify potential impacts during and after mining and, provide continuing data on the areas aquifer characteristics and groundwater occurrences. A recommended water-monitoring program is included in Appendix 7-J, section 10.0. The current approved water monitoring program is shown in Table 7-14.

Springs below the mine will be sampled to determine discharge and water quality parameters and their possible variation with time. These springs include SBC-14, Big Bear Springs, COP Development Springs, and Birch Springs (Plate 7-4). Periodic checks will be made of the mine area to determine any impact not currently expressed at the surface. This data

Table 7-14 Water Monitoring Matrix: Operational Phase of Mining

Location	Jan	Feb	Mar	Apr	May	June	July	Aug[3]	Sept	Oct	Nov	Dec
Streams												
BC-1 (Upper Bear Creek)		oper			oper	field	field	oper.	field	oper		
BC-2 (Lower Bear Creek)		oper			oper	field	field	oper.	field	oper		
BC-3 (Lower Rt Fork Bear Creek)		oper			oper	field	field	oper.	field	oper		
BC-4 (Upper Rt Fk. Bear Creek)		oper			oper.	field	field	oper.	field	oper		
CK-1 (Upper Cedar Creek)		oper			oper.	field	field	oper.	field	oper		
CK-2 (Lower Cedar Creek)		oper			oper.	field	field	oper.	field	oper		
MH-1 (McCadden Hollow Creek)					field [5]		field	field		field		
FC-1 (Lower Left Fork Fish Creek)[7]					field [5]		field	field		field		
FC-2 (Lower Right Fork Fish Creek)[7]					field [5]		field	field		field		
FC-3 (Right Fork Fish Creek Property Line)[7]					field [5]		field	field		field		
FC-4 (Upper Right Fork Fish Creek)[7]					field [5]		field	field		field		
FC-5 (Mud Spring)[7]					field [5]		field	field		field		
FC-6 (Upper Left Fork Fish Creek)[7]					field [5]		field	field		field		
FC-7 (Water Right Upper LF FC)					field [5]		field	field		field		
FC-8 (Water Right Upper LF FC)					field [5]		field	field		field		
Springs												
SBC-3 (Creek Well)		oper			oper			oper.		oper		
SBC-4 (Big Bear Springs) [4]		oper			oper			oper.		oper		
SBC-5 (Birch Spring) [4]		oper			oper.			oper.		oper		
SBC-9A (Hiawatha Seam)		oper			oper			oper		oper		
SBC-12 (16-7-13-1)					field. [5]		field	field		field		
SBC-14 (WHR-6)		oper			oper.			oper.		oper		
SBC-15 (WHR-5)					field[5]		field	field		field		
SBC-16 (WHR-4)[6]					field[5]		field	field		field		
SBC-16A					field[5]		field	field		field		
SBC-16B					field[5]		field	field		field		
SBC-17 (16-7-24-4)		oper			oper.			oper.		oper		
SBC-18 (WHR-2) [7]					field[5]		field	field		field		
SBC-20 (16-18-16-4)[7]					field[5]		field	field		field		
SBC-21 (16-18-29-1)[7]					field[5]		field	field		field		
SBC-22 (Stockwater Trough)					field[5]		field	field		field		
SCC-1 (16-8-20-1					field[5]		field	field		field		
SCC-2 (16-8-15-5)[7]					field[5]		field	field		field		
SCC-3 (Mohrland Portal)					field[5]		field	field		field		
SCC-5 (16-8-7-3)					field[5]		field	field		field		
SMH-1 (FBC-6)					field. [5]		field	field		field		
SMH-2 (FBC-5)					field [5]		field	field		field		
SMH-3 (FBC-13)					field. [5]		field	field		field		
SMH-4 (FBC-4)					field [5]		field	field		field		
SMH-5 (Stockwater Trough)					field [5]		field	field		field		
Wells												
SDH-2 (Well, Sec. 11, T16S, R7E)					level [5]		level	level	level	level		
SDH-3 (Well, Sec. 10, T16S, R7E)					level [5]		level	level	level	level		
MW-114 (Well, Sec 18, T16S, R8E)					level [5]		level	level	level	level		
MW-117 (Well, Sec 12, T16S, R8E)					level [5]		level	level	level	level		

Notes:
1. See Tables 7-13 and 7-17 for listing of water quality monitoring parameters.
2. oper. = operational base. = baseline
3. Baseline parameters taken in August of year 5 prior to each permit renewal.
4. SBC-4 and SBC-5 shall also be tested for oil and grease.
5. First sample to be taken in May or June, when Gentry Mountain is accessible.
6. A comment will be made regarding the level of the pond feeding the spring
7. Monitoring to be done weekly while undermining and one month prior and one month after, then monthly for 6 months

731.220 Surface Water Monitoring

In the past, C. W. Mining has monitored three stations on Bear Creek, one above (north) the mine plan area, one at the right-hand tributary (center) and one below the mine area (southwest). The monitoring location above the mining area is approx 3000 ft upstream from where the mine road crosses Bear Creek in the mine plan area. The monitoring location at the right-hand tributary of Bear Creek is located just above its confluence with the main Bear Creek. Two additional monitoring locations will be added to this tributary for mining in Wild Horse Ridge, one above the disturbed area (northeast), as well as a spring located in the drainage (SBC-14, see section 7.1). The monitoring location downstream is near the Ballpark topsoil storage pile. Monitoring stations are shown on Plate 7_4 and listed below. Monitoring points have also been added to the Fish Creek and McCadden Hollow drainages to monitor for water quantity impacts.

Streams

1. Upper Bear Creek - BC-1
2. Lower Bear Creek - BC-2
3. Lower Right Fork Bear Creek - BC-3
4. Upper Right Fork Bear Creek - BC-4
5. McCadden Hollow Creek - MH-1
6. Fish Creek Left Fork - FC-1
7. Fish Creek Right Fork - FC-2
8. Fish Creek RF Property Line - FC-3
9. Upper Fish Creek Right Fork - FC-4
10. Fish Creek Past Mud Spring - FC-5
11. Upper Fish Creek Left Fork - FC-6
12. Upper Fish Creek LF Water Right- FC-7
13. Upper Fish Creek LF Water Right- FC-8
14. Upper Cedar Creek - CK-1
15. Lower Cedar Creek - CK-2

Surface monitoring will follow the surface water sampling guidelines as shown in Table 7-16, using the water quality parameter list in Table -16. Monthly sampling matrix for each of the existing monitoring stations are included in Table 7-14. Operational surface water monitoring will continue through reclamation to bond release.

731.800 Water Rights and Replacement

If a state appropriated water right is impacted C. W. Mining will replace it as required under R645-301-731.800 of the Utah State Code. Also in accordance with federal lease stipulation 21, if any water resource that has been identified for protection is impacted, C. W. Mining will replace the water resource. All state appropriated water rights are shown on Plate 7-12. All water resources identified for protection were added to the water monitoring schedule (Table 7-14) and are shown as stars on Plate 7-4. These sites were identified in 2006 during several field surveys that included representatives from the following agencies at one or more of the surveys.

C. W. Mining Company
Utah Division of Oil Gas and Mining
United States Forest Service
United States Department of the Interior - Bureau of Land Management
United States Department of the Interior - Office of Surface Mining
C. O. P. Coal Development Company
ANR Inc.
Huntington Cleveland Irrigation Company
Huntington Cattle Association

The companies and agencies who own water rights that may be impacted are C. O. P Coal Development, ANR Inc., United States Forest Service, and Huntington Cleveland Irrigation Company. Due to their property ownership and ownership of existing water rights they are also the only entities that would have any legal claim to any water resources that are not identified in a state appropriated water right. Following is a discussion of the water usage of the entities and probable water replacement methods.

C. O. P. Coal Development

C.O.P Coal Development is the land owner and federal lease holder of all land being mined by C. W. Mining Company. They are a controlling entity of C. W. Mining in is much as they can dictate mining areas and methods through their lease requirements. Their water rights include stock

watering, residential, and industrial. Stock water rights are associated with springs located above the mine within the subsidence area. These lands and water are leased to cattlemen who use the water for stock watering. The springs they use for residential use are located outside of the permit area near the old Trail Canyon Mine and inside the Bear Canyon #1 Mine. No impact is expected to these springs based on the investigation included in appendix 7J. These springs also provide the industrial water used for the mining operations conducted by C. W. Mining Company.

C. W. Mining has agreed to work with C. O. P Development on the replacement of any water rights.

ANR Inc.

ANR is affiliated with C. W. Mining in that they are both controlling entities of Hiawatha Coal Company. ANR Inc. is the private land owner and the federal lease holder for all lands mined by Hiawatha Coal. C. W. Mining is the LMU holder for all federal leases held by ANR Inc. Their water rights include stock watering, municipal, industrial, irrigation and residential. The only water rights located within the affected area are the ones used for stock watering. They also lease land and water to cattlemen.

C. W. Mining has agreed to work with ANR Inc. on the replacement of any water rights.

United States Forest Service

The U. S. Forest Service owns stock watering rights above the affected area. These water rights are used by wildlife and cattlemen who are leasing the land and water from the Forest Service.

Because of the nature of their use if these water rights were impacted the Forest Service would need the water to be restored to the original location. If the impact was a cracked stream or pond C. W. Mining would use pond liners, grouting, or other technologies available to repair the

cracks. If the impact was a displaced spring C. W. Mining would install guzzlers, wells or other available technology to restore the water. Based on the experiences of other mines these methods have been acceptable.

Huntington Cleveland Irrigation Company

Huntington Cleveland Irrigation Company (HCIC) has water rights for stock watering, irrigation, and municipal uses. For stock watering and irrigation HCIC does not hold any water rights within the affected area. Their water rights are located downstream of the affected area. Because of this these two uses do not require replacement right at the source. They just require that the same quantity of water flows downstream to their water right. For municipal use they have two springs of concern located outside, but near the permit area. These are Birch spring and Big Bear Spring. These springs are discussed in depth in Appendix 7J on pages 116 through 126. If these springs were impacted HCIC would require the same quantity of flow at a quality that meets drinking water standards.

If stock watering or irrigation water were impacted C. W. Mining would transfer or retire enough of their shares in HCIC to cover the lost water, or any course of action agreed upon between C. W. Mining and HCIC. Based on the study included in Appendix 7J showing that the springs are recharged locally, no impact to Birch Spring and Big Bear Spring is expected. However members of HCIC have expressed concern that the faults C. W. Mining will mine up against maybe recharge areas for these springs. In the extremely unlikely event that one of these springs is impacted, C. W. Mining would replace the lost flow with equivalent flow from existing springs which it currently holds water rights on. The replacement of either of the springs would most likely be development of new sources that meet the required standards, or the transfer of water from a source, that meets the standards, owned by C. W. Mining to the culinary water system impacted. Details regarding the replacement would be

negotiated with HCIC and the municipalities impacted.

The requirement to replace water would be contingent upon the finding from Utah Division of Oil Gas and Mining of material damage to the water right or protected water resource.

SMH-2 and FBC-7 are troughs located in the McCadden Hollow and upper Trail Canyon areas, respectively. SMH-4 is a spring located above the fenceline in McCadden Hollow. SMH-3 is located on the ridge between McCadden Hollow and Trail Canyon. The source of SMH-1 initially came from a total of seven springs on the side slope of the left fork of McCadden Hollow. In a discussion with Dennis Kelley of the U.S. Forest Service, Co-Op was asked to monitor both the spring with the largest flow (FBC-6A) and the point where all seven flows come together (SMH-1) to compare baseline parameters. However, in 1993 and subsequent years, only SMH-1 has shown any flow and is currently monitored. FBC-8 and FBC-9 are springs located in the upper Trail Canyon area. FBC-10 is Trail Creek. FBC-11 is located in Huntington Canyon below Tie Fork Canyon. These four sites are isolated from the permit area by faults and will not be monitored ~~until this lease is added to the permit area.~~

Baseline sampling began in October 1992. Attachment 7M-A contains the baseline data and will be updated as new baseline samples are taken.

Considering the absence of spring, water sources, the negative potential impacts of subsidence within the Bear Canyon Permit Area could easily be offset by potential positive aspects.

On the negative side: Loss of riparian area and/or water sources and state appropriated water rights is of greatest concern, followed by loss of vegetation from methane gas leaking to the surface from an underground works. Considering the lack of riparian area or water sources above the coal seam, this concern is not warranted for most areas. There are two area of concern above Fish Creek in section 19 as shown on Plate 7-4. These areas will be monitored for loss of water as it is being undermined. ~~Secondly~~, In regards to methane gas Co-Op has never encountered methane gas underground so there is little concern relative to potential vegetation loss. ,~~ and last,~~ The last concern is the loss of nests due to escarpment failure.

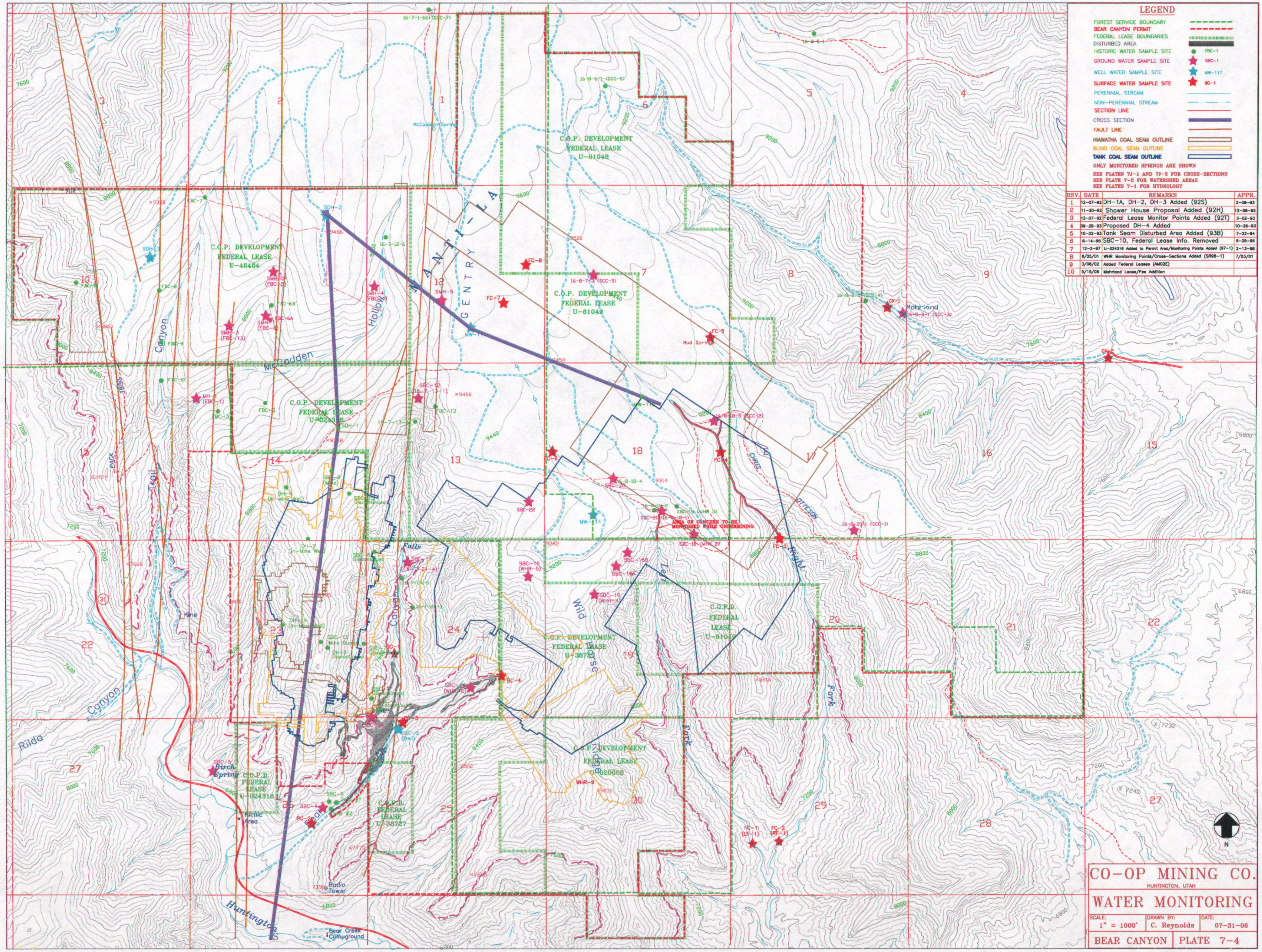
On the positive side: The tension fractures resulting from subsidence along the steep side hills are frequently utilized by big game as movement corridors. The fractures and rubble provide escape cover for a variety of wildlife species as well as additional habitat for burrowing and denning animals. While there is concern over the potential loss of nests as a result of escarpment failure, there is also a potential for additional nesting sites to be created through this gravitational shearing of escarpment surfaces.

PROTECTION

In order to protect water resources and state appropriated water rights from impacts C. W. Mining has designed their mine layout so that areas where these resources

exist with less then 900 feet of overburden between the resource and the coal, the resource will be outside of the affected area. Based on the mining handbook[1] and past history, 900 feet of overburden is sufficient to prevent adverse affects to the resource. Additionally in the areas where perennial streams exist above the affected area (as shown on Plate 7-4) C. W. Mining will increase the monitoring of these areas to a weekly bases one month prior to mining in the area. This weekly monitoring will continue until one month after mining has left the area. Monitoring will then be reduced to once a month for an additional 6 months at which time it will resume its normal schedule. This increased monitoring will include the sites FC-2, FC-3, FC-4, FC-5, and SCC-2 for the right fork of Fish Creek, and FC-1, FC-6, SBC-18, SBC-20, and SBC-21 for the left fork of Fish Creek. ([1] Lowrie, Raymond L., ed. 2002 "SME Mining Reference Handbook" pp. 256)

In escarpment failure areas containing raptor nests C. W. Mining will try to time their mining so that it does not occur during the nesting season. If we are unable to do this a physical obstruction such as fencing will be placed over the nesting site to prevent it's use. This would ensure that if a nest was lost no raptors would be lost with it. As of 2005 there were currently 6 raptor nest located inside the affected area. These area discussed in greater detail in Appendix 3L. Anticipated escarpment failure is discussed in greater detail under the applicable lease.



LEGEND

- FOREST SERVICE BOUNDARY
- BEAR CANYON PERMIT
- FEDERAL LEASE BOUNDARIES
- DISTURBED AREA
- HISTORIC WATER SAMPLE SITE — FBC-1
- GROUND WATER SAMPLE SITE — SBC-1
- WELL WATER SAMPLE SITE — MW-117
- SURFACE WATER SAMPLE SITE — BC-1
- PERENNIAL STREAM
- NON-PERENNIAL STREAM
- SECTION LINE
- CROSS SECTION
- FAULT LINE
- HIAWATHA COAL SEAM OUTLINE
- BLIND COAL SEAM OUTLINE
- TANK COAL SEAM OUTLINE

ONLY MONITORED SPRINGS ARE SHOWN

SEE PLATES 7J-1 AND 7J-2 FOR CROSS-SECTIONS
SEE PLATE 7-5 FOR WATERSHED AREAS
SEE PLATES 7-1 FOR HYDROLOGY

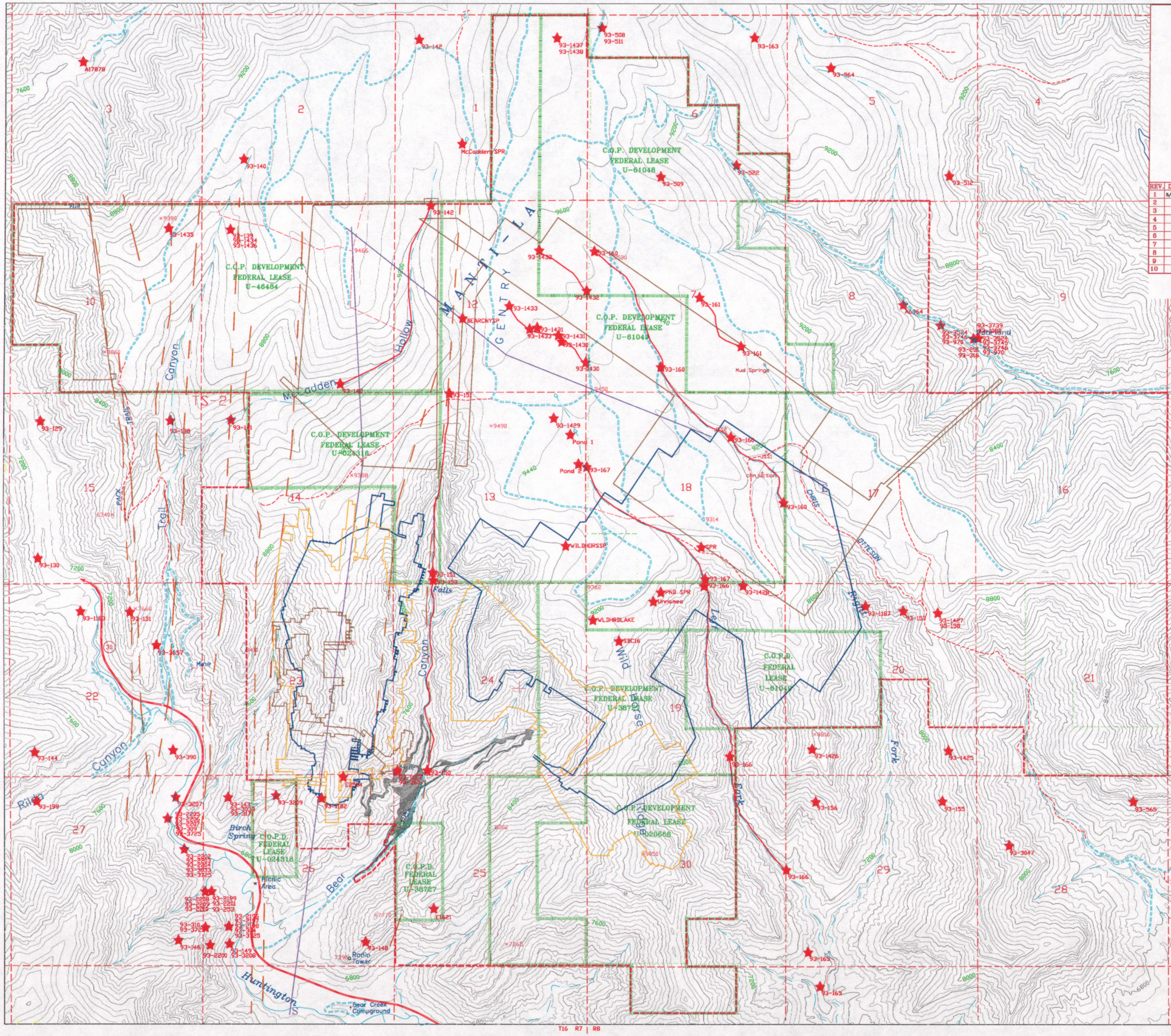
REV.	DATE	REMARKS	APPR.
1	12-07-92	DH-1A, DH-2, DH-3 Added (92S)	2-09-93
2	11-20-92	Shower House Proposal Added (92H)	12-08-92
3	12-07-92	Federal Lease Monitor Points Added (92T)	3-02-93
4	09-29-93	Proposed DH-4 Added	10-26-93
5	10-22-93	Tank Seam Disturbed Area Added (93B)	7-22-94
6	8-14-95	SBC-10, Federal Lease Info. Removed	9-25-95
7	12-2-97	U-024316 Added to Permit Area/Monitoring Points Added (97-1)	2-13-98
8	6/25/01	WHR Monitoring Points/Cross-Sections Added (SR98-1)	7/03/01
9	3/08/02	Added Federal Leases (AM02E)	
10	5/15/06	Mohrland Lease/Fee Addition	

CO-OP MINING CO.
HUNTINGTON, UTAH

WATER MONITORING

SCALE: 1" = 1000' | DRAWN BY: C. Reynolds | DATE: 07-31-06

BEAR CANYON | PLATE 7-4



REV.	DATE	REMARKS	APPR.
1	5/15/06	Mohrland Lease/Fee Addition	
2			
3			
4			
5			
6			
7			
8			
9			
10			

CO-OP MINING CO.

HUNTINGTON, UTAH

WATER RIGHTS

SCALE:	DRAWN BY:	DATE:
1" = 1000'	C. Reynolds	09-22-06

BEAR CANYON | PLATE 7-12